



... in a Nutshell



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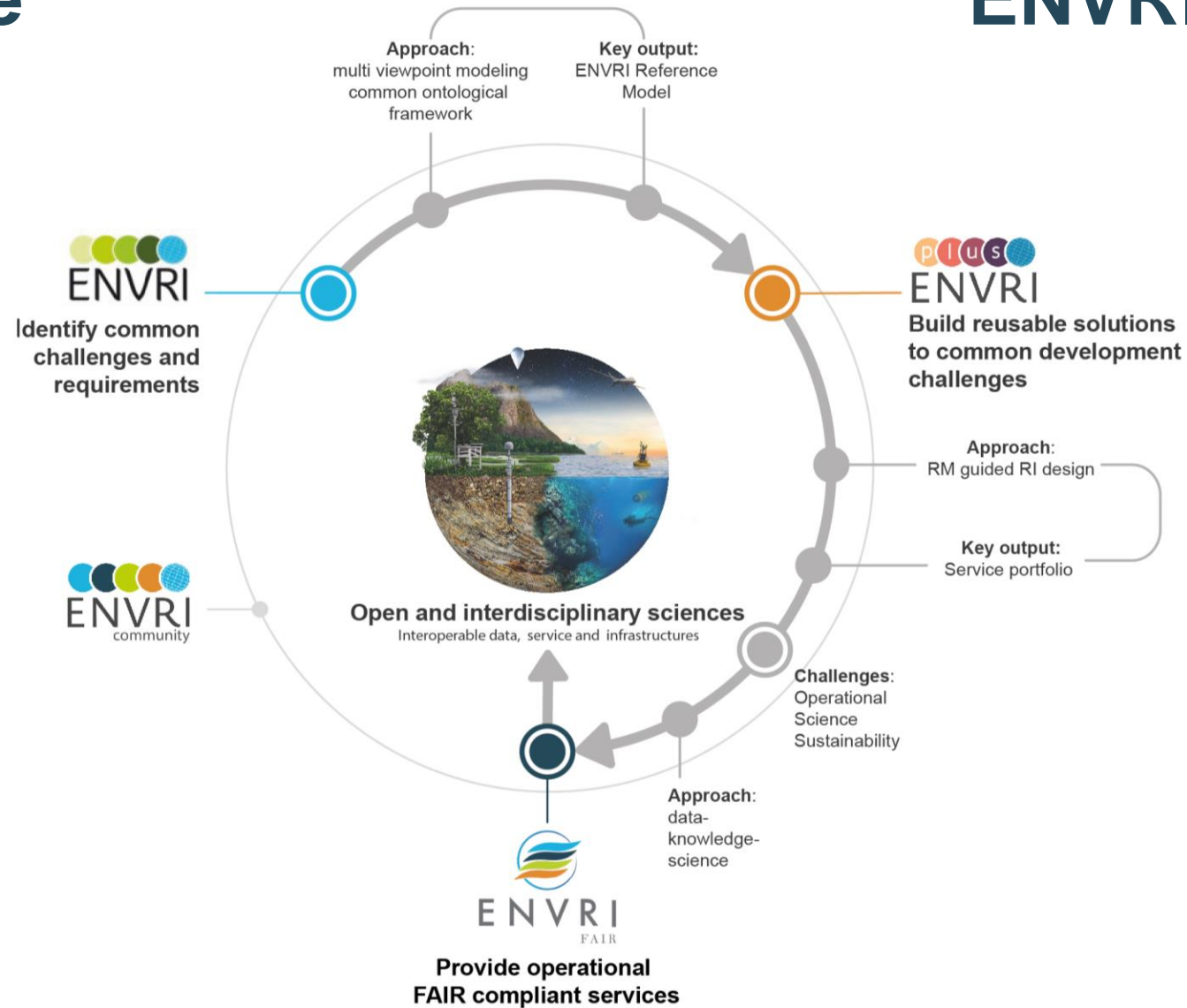
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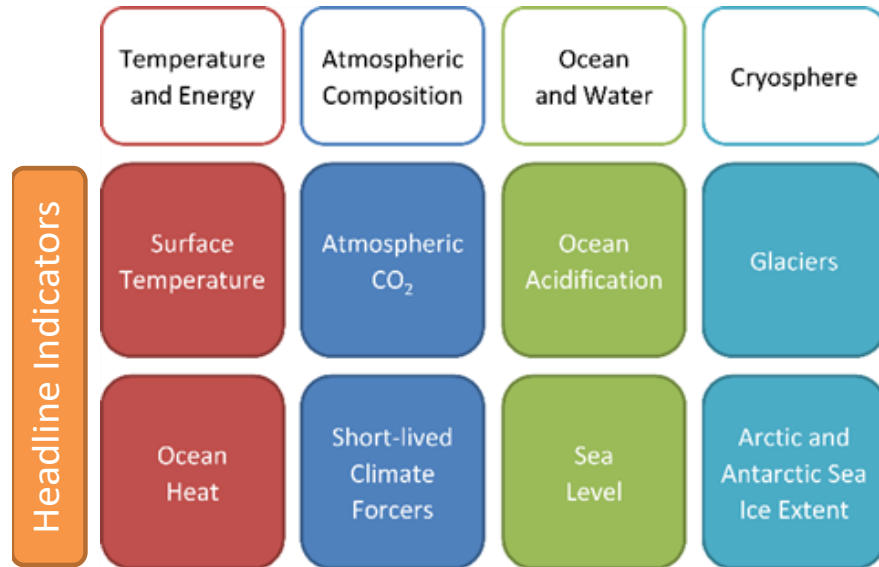
Building the

ENVRI Community





The Climate Crisis - Our Key Challenge



Fighting Climate Change requires

- integrated information on all compartments of our planet, from environmental to life sciences
- joint monitoring of Global Climate Indicators
- free and open access to global observation data
- coordinated interdisciplinary scientific action

GCOS / WMO : Global Climate Indicators are a set of parameters that describe the **changing climate ...**



The ENVRI-FAIR Mission

ENVironmental Research Infrastructures building FAIR services
Accessible for society, Innovation and Research



Environmental Research Infrastructures

- provide data and research products from all four sub-domains of the Earth system
- data are crucial European contributions to global-scale monitoring of the state of the Earth
- data are vital for assessing past and defining future policies, and for the development of environment-friendly innovations
- provide research data and services at EOSC through the ENVRI-Hub

Key Features of Environmental Infrastructures

Interdisciplinarity highly relevant

Specialized observation and analysis platforms

Societal challenges need multidisciplinary methods

High importance to society, economy and resilience

High level of specialization requires RI to concentrate on their main tasks and user communities

Life

Air

Land

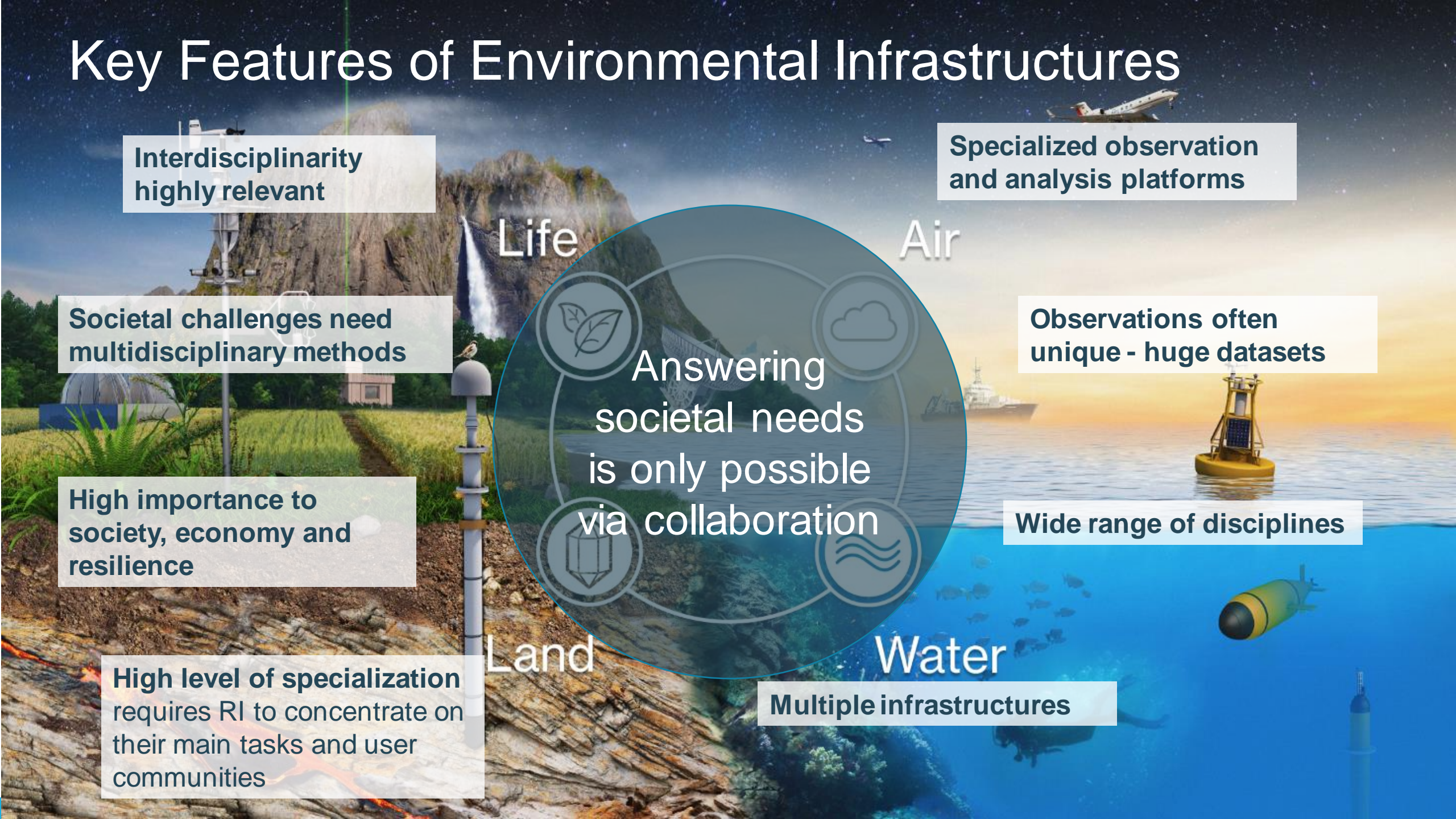
Water

Answering societal needs is only possible via collaboration

Observations often unique - huge datasets

Wide range of disciplines

Multiple infrastructures





An Example: ENVRI Contributions to Copernicus

Air quality observations



Airborne



Satellite

Ground-based



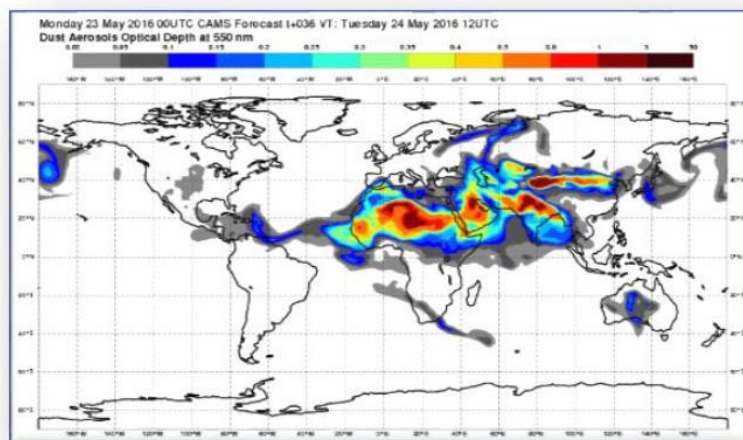
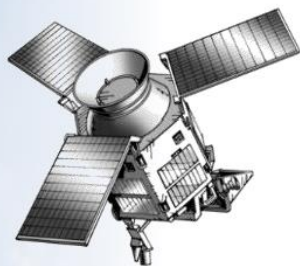
<https://atmosphere.copernicus.eu/cams-multimedia>



Atmosphere
Monitoring

CAMS VALUE-ADDING CHAIN

Space Agencies



ECMWF/IFS



National scale



PREVAIR L'air en France aujourd'hui et demain

La qualité de l'air | Le dispositif français | Analyses et bilans | Actualités | A propos de PREVAIR

Zone géographique
Europe | Métropole | Outre-mer

Type de carte
Qualité de l'air | Indices

Pour la journée
17/05/2017

Représentation
Cartes de pollution | Mesures aux stations

Type de données
Maximum journalier | Moyenne journalière

Polluant
PM10 - Particules en suspension

PM10, moyenne journalière, zone France, le 17/05/2017
Carte de prévision optimisée (voir prévisions régionales des AASQA)

Pollution forecast provided by the Met Office

Today
Air pollution levels will be mainly **Low** today with only localised pockets of **Moderate**.

View full 5 day air pollution forecast
@DefraUKAir daily forecasts

Enter your location:
e.g. Newcastle Search

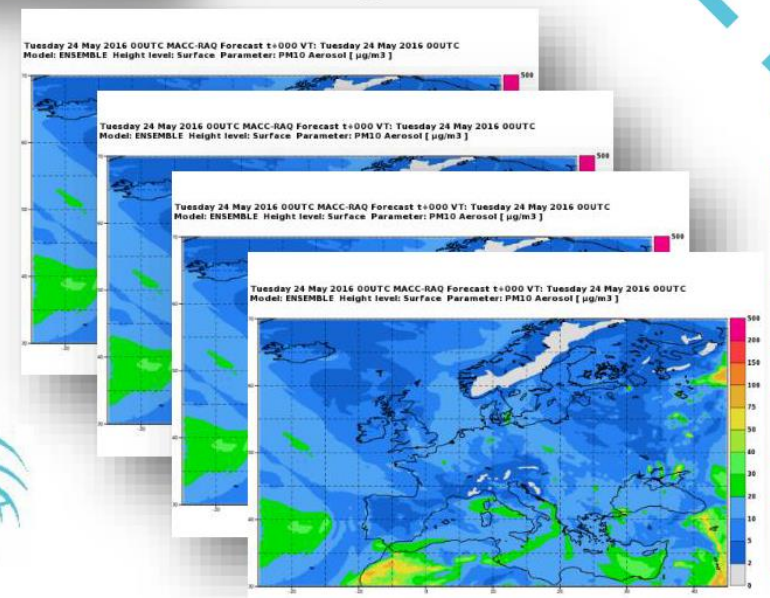
1 2 3 4 5 6 7 8 9 10
Low Moderate High V.High

Health advice for moderate, high or very high pollution >

In-situ observations



7+2 regional CTMs



ENVRI
Atmosphere

ACTriS
Exploring the Atmosphere

ICOS INTEGRATED CARBON OBSERVATION SYSTEM

IAGOS IN-SERVICE AIRCRAFT FOR A GLOBAL OBSERVING SYSTEM



ENVRI Resources Provision

Target: Integrated Access to ENVRI Assets



Example



User community accessing ENVRI via ENVRI-Hub



Specialised users accessing RIs or subdomains directly via RI portals or APIs



Essential Climate Variables defined by GCOS



Upper-air Atmosphere



Surface Atmosphere



Atmospheric Composition



Cryosphere



Anthroposphere



Surface Ocean Physics



Ocean Biology/Ecosystems



Ocean Biogeochemistry



Subsurface Ocean Physics



Biosphere

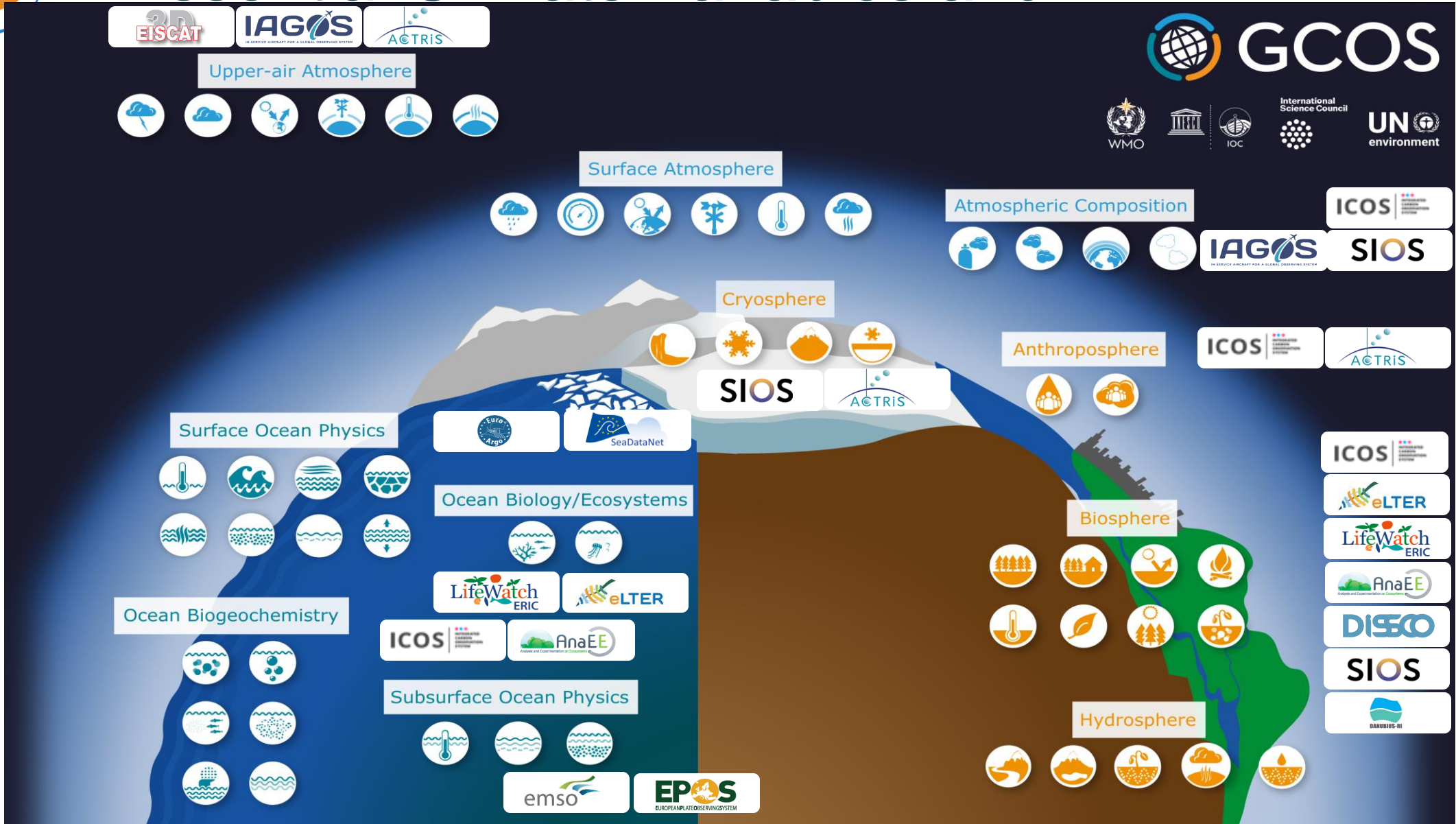


Hydrosphere





Essential Climate Variables and ENVRI





ENVRI
FAIR

Thank you!

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